

Glenair CostSaver Composite EMI/RFI Junction Boxes Design Guide - Step Two

## Step Two: Select Box Color, Plating and Plating Coverage

**Color:** Color pigments may be added directly to the polymer to create a limited range of standard color options. Currently Glenair offers the following box color selections:

- Black
- Blue
- Grey
- Brown (Natural)
- Purple

Certain industries and applications have standardized on particular colors and Glenair can provide custom colors as necessary. Colors may affect material performance. For exact matching of custom colors please provide the factory with a PMS color chip number or material sample.

**Plating:** Glenair offers three standard plating options for EMI/RFI applications:



Electroless NickelNi-PTFE

No Plating, Customer Choice of Base Color

**Plating Coverage:** Plating may be applied selectively to meet specific EMI/RFI shielding and grounding requirements (Unplated models are selected when the grounding of interconnect components for EMI protection is not required). Internal plating with selectively plated penetrations provides optimal EMI protection and surface durability (scratch resistance) External Plating provides complete electromagnetic compatibility without the cost of selective masking and plating.



Internal Plating Only



Selective Plating

## PEI\* Resin Withstands Long-Term Exposure to Heat, Moisture and Caustic Chemicals

Ienair CostSaver Composite Boxes are made from PEI, 30% glass fiber, (polyetherimide). PEI is an amorphous thermoplastic polyetherimide offering outstanding high heat resistance, high strength, modulus and broad chemical resistance. Its balance of properties and processability offers design engineers exceptional flexibility and freedom to innovate. PEI resins are inherently flame resistant with low smoke emission. It is radiation resistant, microwave transparent and is naturally flame retardant. Because of its unequaled properties, PEI is the ideal replacement for steel and other metals. PEI resins offer: inherent flame resistance, long-term heat resistance, dimensional stability, strength and modulus at elevated temperatures, hydrolytic and chemical stability, and environmental and corrosion resistance.

## **Environmental Properties**

PEI resin is resistant to mineral acids, mineral salt solutions and dilute bases. Unlike other amorphous resins, PEI polyetherimide also demonstrates unusually good resistance to a wide range of caustic chemicals.

PEI resin is unaffected by most hydrocarbons, making it an excellent candidate for aircraft and shipboard applications exposed to gasoline, oils and other fuels.

PEI resin is inherently resistant to UV radiation without the addition of stabilizers. Exposure to 1000 hours of Xenon arc weatherometer irradiation (1.55 Watts/m2 irradiance at 340 nm, 63°C) produces a negligible change in the tensile strength of the resin.

PEI resin exhibits excellent hydrolytic stability of tensile strength after immersion in water. 10,000 hour immersion tests in water at 212°F (100°C) show that PEI resin's physical properties remain virtually unchanged, even with repeated cycling from steam pressure to drying in vacuum at room temperature.

\*G.E. ULTEM® Resin

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